

Holding device

Background of the Invention

[0001] The invention relates to a holding device, for example for holding a lighter on a cigarette box.

[0002] It is an object of the invention is to demonstrate a holding device with a simplified design to enable secure and reliable fastening to a packaging box, for example a cigarette box.

Summary of the Invention

[0003] The invention is directed to a holder for fastening a lighter to a cigarette box. The holder has two arms overlapping the cigarette box in the area of the narrow side on the front side and the rear side, wherein the arms are spring arms. The spring arms feature a catch extending at least along part of the length of the spring arm and parallel or approximately parallel to the axis of the lighter.

Brief Description of the Drawings

[0004] The invention is described below based on Figures 1 – 63. The drawings show various embodiments of the holding device according to the invention, in the state of being attached to a cigarette box and in component drawings in various views.

[0005] Figures 1-7 show a first possible embodiment of the holding device according to the invention, manufactured as one piece with a disposable or refillable lighter. In these drawings, 1 is a cigarette box with a standard hard-box design and 2 is a lighter, which can be fastened to the cigarette box by clipping it to one of the four narrow sides and in the depiction of Figures 1 - 4 the lighter 2 is fastened to the narrow side 1.1.1 of the cigarette box 1 or of the flip-top lid 1.1 of this box. The lighter 2 in this embodiment has an oval, elongated lighter body 2.1, on one end of which is provided the usual friction wheel 3 for the flint, the gas or flame nozzle 4 and diametrically opposed to said nozzle relative to the friction wheel 3, an actuating button for opening the gas valve for the nozzle 4;

[0006] The holding device in this embodiment is formed by two spring arms 6 and 7, which protrude beyond a common, wider peripheral side of the body 2.1, parallel to each other and at a distance from each other. The distance between the two spring arms 6 and 7 on their sides facing each other is approximately equal to or slightly less than the width of the cigarette box 1 on its narrow sides (Figures 1, 3 and 4). The peripheral side over which the two spring arms 6 and 7 protrude is flat in the middle between said spring arms, as indicated by plane E in Figures 5 and 7. The two spring arms 6 and 7 extend along the majority of the length of the lighter 2 and of its body 2.1. On the free end the spring arm 6 is provided on its side facing the spring arm 7 with a strip-shaped lug or catch 8, which is formed according to Figures 3, 4, 5 and 7 so that said catch 8 forms a beveled surface 8.1 on its outer side facing away from the free end of the spring arm 6, said surface forming an acute angle α with the outer surface of the arm 6 facing away from the catch 8 opening toward the body 2.1. The beveled surface 8.1 is adjoined by a second beveled surface 8.2 forming the actual catch and likewise forming an angle β smaller than 90° with the outer surface of the spring arm 6, which (angle) however is greater than the angle α of the beveled surface 8.1 and which opens toward the side facing away from the body 2.1. Instead of the beveled surface 8.1, a correspondingly rounded surface can be provided, which then likewise forms the surface of the catch 8 facing away from the body 2.1;

[0007] The catch 8 extends along the entire length of the spring arm 6 parallel to the longitudinal extension of the lighter 1. At least one mandrel or projection 9 is provided on the spring arm 7 in the area of the free end and of the catch 8 opposing in an axis direction parallel to the plane E;

[0008] Figures 4 and 8 show the attachment of the lighter with the holding device onto the upper narrow side 1.1.1 of the cigarette box, i.e. when being attached, first the spring arm 7 is brought to bear against one front side or back side adjacent to the respective narrow side, i.e. in the depiction in Figure 4 on the front side 1.1.2 of the lid 1.1, so that the mandrel 9 presses into said front side directly where it joins the narrow side 1.1.1. Afterwards, the lighter 2 is brought to bear against the narrow side 1.1.1 by rotating it corresponding to arrow A, during which the catch 6 first slides with its beveled surface 8.1 or a correspondingly rounded surface on the edge 10 formed between the narrow side 1.1.1 and the back side 1.1.3 of the lid 1.1 and the catch 8 finally bears on the back side 1.1.3 and forms in the latter a groove 11 accommodating the catch 8 in the immediate proximity of the catch 8 and

extending parallel to said edge 10. Since the groove 11 is formed directly on the edge 10, the cigarette box 1 features sufficiently high stability also in the area of this groove, so that the lighter 2 is held reliably on the narrow side 1.1.1, and the cigarette box 1 or its lid 1.1 is surrounded by the lighter body 2.1 and the formed spring arms 6 and 7 in the manner of a clamp and the lighter 2 is positioned with its end featuring the nozzle 4 so that when the lighter 2 is operated, the flame does not endanger the cigarette box 1 made of cardboard:

[0009] The beveled surface 8.1 and the corresponding rounded surface are crucial, since they effectively prevent the destruction or deformation of the edge 10 when attaching the lighter 2, which ensures the secure holding of the lighter 2;

[0010] The lighter 2 can also be easily removed from the cigarette box 1, if necessary. An essential advantage consists furthermore in the small, compact design of the lighter 2 which is manufactured as one piece with the holder (spring arms 6 and 7), so that the cigarette box 1 with the attached lighter 2 can conveniently be placed in pockets of articles of clothing, etc. The mandrel 9 ensures that the lighter 2 is secured against unwanted axial movement onto the cigarette box 1;

[0011] Figures 9 – 16 show in depictions similar to Figures 1 – 7 the cigarette box 1 together with a further possible embodiment of the holder according to the invention, which is designated 12 in these drawings and represents an element that is separate from the lighter 2a. The holder 12 is manufactured as one piece, for example of plastic, and consists essentially of a wall section 13 extending along the entire length of the holder. The two spring arms 6 and 7 are formed onto one side of the wall section 13 and protrude beyond the latter. On the other side of the wall section 13, the holder 12 forms a retainer for the lighter 2a. For this purpose, the holder 12 is provided there with two clips or shackles 14 protruding beyond the wall section 13 and likewise extending along the entire length of the holder 12 and enclosing the lighter on the two narrower sections of the peripheral wall of the body 2.1. The wall section 13 is provided on one end with a stop 14.1, against which the lighter 2a clamped into the holder 12 bears with its bottom facing away from the friction wheel 3. The holder 12 is fastened in the same manner as described above for the lighter 2 with the integrated holder;

[0012] Figures 17 – 24 show, partially again together with the cigarette box 1, a lighter 2b, which is manufactured as one piece with a holding device, in the form of a sword-shaped spring clip 15, which extends along the entire length of the lighter 2a on one of the two wider peripheral wall sections of the lighter 2.1, which likewise has an oval cross section. The width of the spring clip 15 is approximately equal to the larger outer diameter of the lighter 2.1;

[0013] The spring clip 15 is formed onto the lighter body in an area beneath the push button 5, with a clip section 15.1, which extends adjacent to the friction wheel 3 first onto the top of the lighter 2b and then into a section 15.2 extending along the entire length of the lighter. The section 15.2 is provided with a plurality of openings 16. Furthermore, the section 15.2 is designed with spring-action edge sections 17 on the edge, which form spring-action bearing surfaces on the edge after fastening the lighter 2b to the cigarette box 1;

[0014] As shown in Figures 17 – 19, the lighter 2b is fastened with the spring clip 15 for example on the top narrow side 1.1.1 of the lid by the fact that the spring clip 15 there is inserted from the side under the cardboard ply forming the top of the narrow side and brought to bear with the spring-action edge sections 17 against the inner surfaces of the sides adjacent to said narrow side 1.1.1, namely in the depicted embodiment of the front side 1.1.2 and the back side 1.1.3 of the lid 1.1. The spring clip 15 is clamped by the spring-action edge sections in the lid 1.1, also in the event of differing box widths;

[0015] Figures 25 – 32 show as a further possible embodiment a lighter 2c with an adaptable holder in the form of a spring clip 15a that can be fastened to the lighter or its body 2.1. The spring clip 15a is designed similarly to the spring clip 15; however, the former features mushroom-shaped projections 18 formed onto one end of the section 15.1, with which (projections) the spring clip 15a can be fastened in the manner of a snap fastener by snapping it into adapted openings 19 on the lighter body 2.1;

[0016] Figures 33 – 36 show an embodiment similar to that in Figures 25 – 32, in which the spring clip 15b is provided with a formed retainer ring 20, which is formed onto the section 15.1 and can be fastened with the spring clip 15b on the lighter body 2.1 of the lighter 2a;

[0017] Figures 37 – 40 show an embodiment in which the spring clip 15c is provided with two holding clips 21 formed onto the section 15.1, which (clips) form a continuous retainer ring and with which the lighter 2a can be fastened to the spring clip 15c by clamping;

[0018] Figures 41 – 49 show as a further possible embodiment a spring clip 15d, which corresponds in its function to the spring clip 15, but which is made of plastic as one piece with a holder. For this purpose the section 15.1 is lengthened to a wall section 22 extending along the entire length of the spring clip. The spring clip 15d is provided adjacent to one side of this wall section 22. On the other side, the wall section 22 features clip-shaped wall sections 23, which together with a stop 24 form a retainer for clamping the lighter 2a. In this embodiment, the spring clip 15d is made as one piece with the holder. It is fundamentally possible, however, to connect the spring clip for example with a section corresponding to the section 15.1 by catching or another suitable manner with one of the two wall sections or spring arms 23 and the retainer formed by the stop 24;

[0019] Figures 53 – 54 show an embodiment similar to that in Figures 45 – 49. This embodiment differs from the embodiment in Figure 45 – 49 essentially in the shape of the spring clip 15e and in the fact that the wall section 25 corresponding to the plate or wall section 22 is provided with a recess 26, through which the spring clip 15e is fully visible also from the side facing away from said spring clip, so that it can be manufactured with a particularly simply tool;

[0020] Figures 55 – 59 show in various depictions a holder 12a, which is similar in design to the holder 12 and which, in addition to the clips or spring arms 14 provided on the wall section 13 and the stop 14.1 on the ends of the clips 14, forms additional stops 14.2 in a plane with the stop 14.1 for the end (bottom) of the lighter 2a facing away from the friction wheel 3; and

[0021] Figures 60 – 63 show in four different views a holder 27, which features an arm 29 and 30 on each of the longitudinal sides of a rectangular wall section 28, said arms protruding beyond the two surface sides of said wall section. These arms form the spring arms corresponding to the spring arms 6 and 7, i.e. the arm 29 is provided on both sides with a catch 8 extending in the longitudinal direction of the holder 27. Furthermore, the two arms are rounded on the ends. The arm 30 is provided with a mandrel on the inner side in the area

of each of its free edges. The holder 27 can be used to connect a plurality of packaging boxes to each other, on each packaging box in a manner as described for the holder 12. For example, the holder 27 can be used to combine packaging boxes to form a system or composite. In particular, the holder 27 could be used in the toy sector or toy department. Furthermore, the holder 27 can be modified so that the arms 29 and 30 feature the catch 8 and the at least one mandrel 9 on only one side of the wall section 28. In this case, the side without the catch 8 and the mandrel 9 forms a grooved retainer, in which a wide variety of objects can be arranged, for example perfumes, lipsticks, beauty cases, etc., and the holder, modified to form a grooved retainer, can then be fastened to a wide variety of boxes or packages.

Detailed Description of the Invention

[0022] The special features of the embodiments described above can be summarized as follows:

Embodiment in Figures 1 – 8

[0023] - The lighter 2 is manufactured as one piece with the spring arms 6 and 7 forming the holding device.

[0024] - The spring arms are provided on their inner surfaces with strip-shaped catches, each of which engages in a groove 11 on the cigarette box 1 and/or on one side additionally with a projection or mandrel 9 for securing the lighter in longitudinal direction.

[0025] - A lateral spring arm 6 is rounded on the bottom side extending outward and inward or is provided with a suitable slip surface or beveled surface 8.1.

[0026] - The strip-shaped catch 8 on at least one spring arm is arranged there so that the groove 11 pressed by the catch into the cigarette box 1 is located directly on the narrow side, onto which the lighter 2 with the holder is placed.

Embodiment in Figures 9 - 16

[0026] - The holding device is provided with two laterally rounded or beveled and spring-action spring arms or clamp legs 6 and 7 and with a retainer for the lighter 2a.

[0027] - The retainer of the holder 12 features at least one stop 14.1, 14.2 for the bottom of the lighter.

[0028] - At least one spring arm has a rounded or beveled surface 8.1 for clipping the holder 12 to a cigarette box without damaging the edge of the box in the area of the narrow side.

[0029] - The holder 12 is formed by a wall section 13, from which the spring arms 6 and 7 for fastening to the cigarette box 1 and also the clamps or spring arms 14 for clamping the lighter 2a protrude.

[0030] - The clamps 14 are provided with a guard to prevent lighters with round bodies from twisting out.

Embodiment in Figures 17 – 24

[0031] - The lighter 2b is provided with a sword-shaped spring clip 15 formed onto one side.

[0032] - The spring clip features spring-action edge sections or clamping elements on the longitudinal sides, for holding the spring clips 15 by clamping after insertion into the cigarette box, also for cigarette boxes with differing dimensions.

[0033] - In one possible modified embodiment, the spring clip 15 is designed so that its width is adjustable.

Embodiment in Figures 25 – 32

[0034] - The spring clip 15a is not manufactured as one piece with the lighter, but instead can be fastened to the latter in a suitable manner, for example by sliding, by snapping on, by pressing on, twisting on, etc.

[0035] - Furthermore, it is possible with this embodiment to provide in place of the spring clip another fastening element, which is fastened in the same manner to the lighter or to a holder accommodating the lighter.

[0036] The invention was described above based on a plurality of exemplary embodiments. It goes without saying that numerous variations and modifications are possible without abandoning the underlying inventive idea upon which the invention is based. It is possible, for example, to provide at least one catch 8 on the spring arm 7, in place of the mandrel 9 or in addition to the latter.

Reference list

1	cigarette box
1.1	box lid
1.1.1	narrow or top side of box lid
1.1.2	front side of box lid
1.1.3	back side of box lid
2, 2a, 2b, 2c	lighter
2.1	lighter body
3	friction wheel
4	nozzle
5	push button
6, 7	spring arm
8	catch
8.1	beveled surface
8.2	catch surface
9	projection or mandrel
10	edge
11	groove
12	holder
13	wall section
14	clamp or spring arm
14.1, 14.2	stop
15, 15a-15e	spring clip
15.1, 15.2	section of spring clip
16	opening

17	clip spring-action edge area
18	projection
19	opening
20	holding ring
21	holding clip
22	wall section
23	wall section
24	stop
25	wall section
26	recess
27	holder
28	wall section
29, 30	arm
E	plane